

Patent claims

1. A method for producing a seamless edible cellulose tubing from underivatized cellulose in which a solution of the underivatized cellulose in tertiary amine N-oxide, additives and water is extruded from an annular die as tubing and conducted downward through an air gap into a water bath, in order to solidify the cellulose and the additives and allow amine N-oxide to escape from the cellulose, in addition, the cellulose tubing is conducted out of the water bath, which comprises cleaning the cellulose tubing by spraying with heated water, the cellulose tubing being transported upward at an incline during the spraying, thereafter the tubing is passed through at least two wash sections and one plasticizing section and after exit from the plasticizing section is predried as wet tubing in the laid-flat state before it is dried, in the blown state, to its final moisture.
2. The method as claimed in claim 1, wherein the cellulose tubing is predried to a moisture of 30 to 70 % of the moisture of the wet tubing.
3. The method as claimed in claim 2, wherein the cellulose tubing is predried to a moisture of 40 to 60 % of the moisture of the wet tubing.
4. The method as claimed in one of claims 1 to 3, wherein an impregnation solution is applied to the tubing inside of the predried tubing.
5. The method as claimed in claim 1, wherein the tubing is shrunk by the predrying and its extensibility is

decreased.

- 5 6. The method as claimed in one of claims 1 to 5,
wherein the cellulose tubing passes through a
predrying zone two times, by being turned round by
180° at one end of the predrying zone.
- 10 7. The method as claimed in claim 6, wherein the
cellulose tubing passes vertically through the
predrying zone.
- 15 8. The method as claimed in claim 6, wherein the
cellulose tubing passes horizontally through the
predrying zone.
- 20 9. The method as claimed in claim 1, wherein the
predrying takes place in a predrying zone of a length
of up to 12 m and is predried by air which is at a
temperature up to 130 °C.
- 25 10. The method as claimed in claim 9, wherein the running
speed of the cellulose tubing, the length of the
predrying zone and the temperature of the air are
adjusted to one another in such a manner that the
moisture of the predried cellulose tubing at the exit
from the predrying zone is 40 to 60 % of the moisture
of the wet cellulose tubing.
- 30 11. The method as claimed in claim 1, wherein the
predried cellulose tubing is dried in the inflated
state between two pinch-roll pairs by hot air to a
final moisture of up to 10 % of the moisture of the
wet cellulose tubing.
- 35 12. A device for producing a seamless edible cellulose

tubing (2) made of underivatized cellulose which is extruded from an annular die (3) and introduced via an air gap into a water bath (4), is turned round in this and conducted out, conducted via a conveyor belt (1) through a first and second washing section (9, 11) into a plasticizing section (12), wherein the cellulose tubing (2) is transportable from the plasticizing section (12) into a predryer (13) which is provided upstream of a main dryer (19), and the predryer (13) is arranged vertically or horizontally.

13. The device as claimed in claim 12, wherein the predryer (13) has a length of up to 12 m.

14. The device as claimed in claim 13, wherein, close to an exit orifice (23) of the predryer (13), there is arranged a guide roll (14) round which the cellulose tubing (2) runs after passing through the predryer (13) and, turned round through 180°, passes the predryer (13) a further time and leaves via an exit orifice (24).

15. The device as claimed in claim 14, wherein the cellulose tubing (2), after exit from the predryer (13), is conducted between a roll pair (15) and is turned round one of the rolls of the roll pair (15) in the direction of the main dryer (19).

16. The device as claimed in claim 13, wherein, in the predryer (13), heated air can be blown into the laid-flat cellulose tubing (2).

17. The device as claimed in claim 16, wherein the air which is blown in is heated to a temperature up to 130 °C.

18. The device as claimed in claim 15, wherein an impregnation can be introduced into the interior of the cellulose tubing (2) before its entry into the main dryer (19).
5
19. The device as claimed in claim 12, wherein two pinch-roll pairs (21, 22) are arranged in the main dryer (19), and the laid-flat cellulose tubing (2) can be inflated between the two pinch-roll pairs (21, 22) by heated air to form a tubular cellulose tubing (20).
10
20. The device as claimed in claim 19, wherein the tubular cellulose tubing (20) can be dried in the inflated state to its final moisture of up to 10 % of the moisture of the wet cellulose tubing (2) and can be shrunk to its final caliber.
15
21. The device as claimed in claim 18, wherein the interior of the cellulose tubing (2) is impregnated with an aqueous impregnation solution having 2 % by weight of a distearyl diketene.
20